

## **REMARKS**

This application has been reviewed in light of the Office Action mailed September 19, 2005. Reconsideration of this application in view of the below remarks is respectfully requested. Claims 1-18 and 23-38 are pending in the application with Claims 1, 18, 28, 29, 30, 32, 33, 34 and 37 being in independent form. By the present amendment, Claims 18, 28, 29, 32 and 33 have been amended and Claims 34-38 have been canceled. No new matter or issues have been introduced by way of the present amendment.

Initially, Applicants thank the Examiner for indicating that Claims 1-17, 23-27, 30 and 31 are allowed over the prior art.

### **I. Rejection of Claim 18 Under 35 U.S.C. §102(b)**

Claim 18 has been rejected under 35 U.S.C. §102(b) for allegedly being anticipated by U.S. Patent 6,338,275 issued to Soares (hereinafter "Soares").

Soares discloses a lightly doped semiconductor substrate leaf 105 (required for the creation of a Schottky-barrier) and a pair of conductive contacts 110 and 115 located thereon. The contacts 110, 115 each comprise a layer of metal 120 at an interface 125 with the substrate leaf 105. (See Soares: col. 6, lines 25-30). The interface 125 is the Schottky-barrier.

Additionally, Soares requires a Schottky-barrier interface between the semiconductor and the contacts 110, 115. Soares, in fact, teaches away from a resistive interface between the semiconductor and the contacts. Applicants disclose a resistive, or Ohmic, interface between the semiconductor 120 and the metal contacts 150, 160, 170, 180 (See Applicants' paragraph 26, lines 1-2), thus unlike Soares, the present invention is not limited to a Schottky-barrier interface, while Soares' disclosed device clearly would be rendered inoperable for its stated function if the Schottky-barrier interface were replaced with a resistive interface.

This differs markedly from Applicants' claimed invention, as in Applicants' amended Claim 18, reciting:

"...a semiconductor film 120 and an adjacent metal shunt 110 forming a first interface 115 between the semiconductor film 120 and the adjacent metal shunt 110, the semiconductor film 120 and metal shunt 110 being deposited on a substrate 125 and the first interface 115 being located vertically to the substrate 125 and along adjacent side walls of the semiconductor film 120 and the adjacent metal shunt 110, and a plurality of metal contacts 150, 160, 170, 180 forming a plurality of secondary interfaces with the semiconductor film 120 on an opposite side of the metal shunt 110 thereby allowing detection of the change in the resistance of the semiconductor film, the plurality of secondary interfaces being resistive interfaces..."

Consequently, Soares fails to anticipate all of the elements of Applicants' claimed invention as recited in Claim 18. Therefore, for at least the reasons given above, Claim 18 is believed patently distinct and allowable over Soares. Accordingly, Applicants respectfully request withdrawal of the rejection, with respect to Claim 18, under 35 U.S.C. § 102(b) over Soares.

## **II. Rejection of Claims 28 and 33 Under 35 U.S.C. §103(a)**

Claims 28 and 33 have been rejected under 35 U.S.C. §103(a) as being obvious over Soares in view of U.S. Patent No. 5,526,703 issued to Aslam et al. (hereinafter "Aslam et al.").

As mentioned above, Soares fails to disclose or suggest all the elements of Applicants' claimed invention. Specifically, Soares fails to teach a semiconductor film 120 and an adjacent metal shunt 110 forming a first interface 115 between the semiconductor film 120 and the

adjacent metal shunt 110, the semiconductor film 120 and metal shunt 110 being deposited on a substrate 125, and a plurality of metal contacts 150, 160, 170, 180 forming a plurality of secondary interfaces with the semiconductor film 120 on an opposite side of the metal shunt 110 thereby allowing detection of the change in the resistance of the semiconductor film, the plurality of secondary interfaces being resistive interfaces, as recited in Applicants' Claims 28 and 33.

Aslam et al. discloses semiconductor film comprising of Indium Antimonide. However, Aslam et al. fails to overcome the deficiencies of Soares as noted above. Therefore, for at least the reasons given above, Soares and Aslam et al., taken alone or in any proper combination, fail to disclose or suggest Applicants' invention as recited in Independent Claims 28 and 33.

Accordingly, Applicants respectfully request withdrawal of the rejection, with respect to Claims 28 and 33, under 35 U.S.C. § 103(a) over Soares in view of Aslam et al.

### **III. Rejection of Claims 29, 32 and 34-38 Under 35 U.S.C. §103(a)**

Claims 29, 32 and 34-38 have been rejected under 35 U.S.C. §103(a) as being obvious over Soares in view of Aslam et al. and further in view of U.S. Patent No. 5,012,304 issued to Kash et al. (hereinafter "Kash et al."). Claims 34-38 have been canceled, rendering the rejection, with respect to these claims, moot.

Regarding Claims 29 and 32, these claims have been amended to recite: "...a semiconductor film and an adjacent metal shunt forming a first interface between the semiconductor film and the adjacent metal shunt... and a plurality of metal contacts forming a plurality of secondary interfaces with the semiconductor film on an opposite side of the metal shunt thereby allowing detection of the change in the resistance of the semiconductor film, the plurality of secondary interfaces being resistive interfaces..."

As noted above, Soares in view of Aslam et al. fails to disclose or suggest the above-identified limitations. Additionally, Kash et al. fails to overcome the deficiencies in Soares and Aslam et al. Therefore, for at least the reasons given above, Soares, Aslam et al. and Kash et al., taken alone or in any proper combination, fail to disclose or suggest Applicants' invention as recited in Independent Claims 29 and 32. Accordingly, Applicants respectfully request withdrawal of the rejection, with respect to Claims 29 and 32, under 35 U.S.C. § 103(a) over Soares in view of Aslam et al. and further in view of Kash et al.

## CONCLUSIONS

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1-18 and 23-33 are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Applicants' undersigned attorney at the number indicated below.

Respectfully submitted,



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